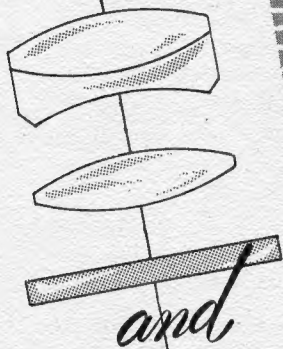


COPYING



CLOSE-UPS

with

35mm and ROLL FILM CAMERAS

EDUCATIONAL SERVICES DIVISION, ARGUS CAMERAS

How often have you admired those dramatic "bigger-than-real-life" photographs of animals and insects, or envied the friend who makes razor sharp photo-copies of his rare stamps and faded family photographs?

That kind of photographic "magic" catches the eye, doesn't it?

Well, it's actually as simple as it is impressive. As a matter of fact, with one or two simple attachments, and your camera, you too can take "close-up" pictures as easily and quickly as you snap a favorite scene or the family group portrait on a Sunday afternoon.

The camera you have has always taken pictures as close as 3 ft., but your local photo dealer has special "close-up" attachments to help you capture a truly "lifesize" flower in brilliant color, or make photographic copies of special charts, diagrams, etc.

Furthermore, these attachments are easy to use, inexpensive to purchase, and will add a great deal of pleasure to your photographic hobby! Let's get better acquainted with them . . .

LENS ATTACHMENTS FOR CLOSE-UP PHOTOGRAPHY

portrait attachments

attach to regular camera lens . . . gives "head and shoulders" portrait about 36 inches from subject . . . (particularly helpful with simple cameras like the Argus 75.)

close-up attachments

attach to regular camera lens . . . for working between 39 and 3½ inches from subject . . . (often referred to as Plus 1, Plus 2 or Plus 3 lenses, and Portra or "diopter" lenses) . . . can be used in combination.

extension tubes

attach to camera after regular lens is removed . . . lens is then screwed into end of extension tube . . . for photographs of small insects, coins, etc. (Image on negative can be same size or larger than actual object).

bellows attachments

similar to extension tube in operation . . . leather bellows arrangement . . . permits working as close as 2 inches from subject . . . uses regular camera lens.

microscope adaptors

connects your camera to a microscope . . . for close-up pictures of specimens and tiny objects.

BASIC STEPS IN CLOSE-UP PHOTOGRAPHY

There are only 4 easy steps in taking good, close-up photographs, and here they are . . . !

1

SELECT PROPER ATTACHMENT

The SUMMARY CHART and ADAPTER GUIDE were designed to help select the proper attachment for your camera . . . Your local photo dealer has the attachments, or can order them quickly.

2

CENTER LENS ON SUBJECT

Because the viewfinder and lens of a camera do not "see" exactly the same when used "inches" from the subject, you may cut off some of the picture, unless you make certain your subject is centered and framed by . . .

- constructing a framing unit
- using a commercial framing unit

3

SET UP BEST LIGHTING

With the SUMMARY CHART and "Sketch Sheet", you can decide which type lighting will be best for your work. Your local photo dealer can be of real help here too.

4

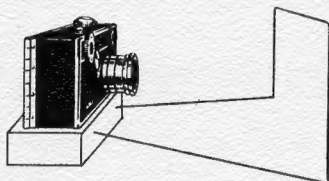
EXPOSE FILM AND DEVELOP

Although the correct exposure for close-up and copy work has to be pretty much "by guess and by golly" at first, the SUMMARY CHART will help . . . don't be afraid to EXPERIMENT!! . . . and do be sure to have your black-and-white film FINE-GRAIN DEVELOPED . . . (or do it yourself).

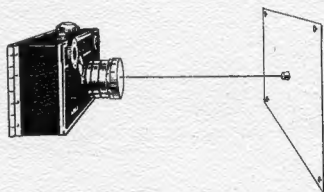
CENTERING

Commercial centering or framing devices include complete instructions for proper working distances, and areas covered by each close-up lens or copy unit.

These "gadgets" can help you develop a fool-proof system for getting sharp focus every time.



A piece of wire (maybe an old coat hanger will do) bent so that straight piece goes out from camera to subject ... then bends around "field" of subject in a sort of frame. Eliminates measuring each time.



A single rod which attaches to your lens mount in one way or another, and extends straight out (to locate the approximate center of your subject).

It's also a good idea to keep a sharp eye on the distances at which you are working from your subject. A fraction of an inch one way or the other can throw your pictures out of focus, as depth of field is extremely limited at close distances!

The following technique is used by many photo fans to assure sharp focus with copy lenses.

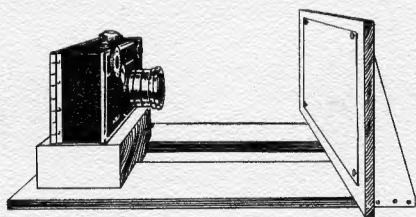
With the camera on a firm support, open or remove camera back • place a small piece of ground glass or tissue paper over the film opening • set LENS wide open • set shutter for "time", or "bulb", and press shutter release.

Now by moving the camera back and forth from the subject, you will be able to see your subject on the ground glass, and can decide when the image is sharp.

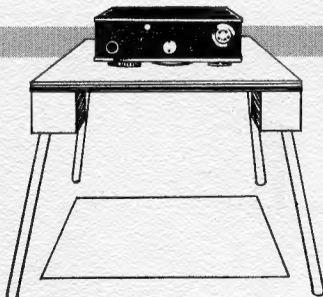
In this way you can set up a chart showing the copying distance for each copy lens or close-up device you use, and at the same time, get a good idea of how much area is covered by the copy lens or close-up device at the proper working distance.

FRAMING

You may want to construct your own centering device. We have included here a few sketches and suggestions for some which can be put together in your workshop.



A simple "copying bench" . . . constructed from spare lumber . . . holds camera, centers subjects . . . keeps camera and subject "lined-up".



A small horizontal platform through which the camera lens projects; will photograph correctly and sharply whatever material falls within the rectangle formed by the four legs. Make up a set of legs for each distance at which you wish to work.

COMMERCIAL COPYING AND CLOSE-UP ACCESSORIES

Photographic Importing & Distributing Corporation
67 Forest Road
Valley Stream, New York

Burke & James, Inc.
321 S. Wabash Avenue
Chicago 4, Illinois

Spiratone, Incorporated
135-06 Northern Boulevard
Flushing 54, New York

C.B.S. Laboratories
561 Crescent Avenue
Buffalo 14, New York

Dr. Edward D. Markle
Suite 511, P. O. Box 441
Central Trust Building
Jefferson City, Missouri

Harry R. Abuhove
Blue Cross Building
110 South 16th Street
Philadelphia 2, Pa.

Shull-Meyer Company
8681 Melrose Avenue
Los Angeles 46, California

Mayfair Mfg. Company
89-93 Grand Street
Brooklyn 11, New York

Cal-Cam
1564 N. Grand Oaks Avenue
Pasadena 7, California

Medical, Dental Scientific
Photographic Equipment
Box 55
Levittown, New York

Speedlight Center
128 West 32nd Street
New York 1, New York

Nilsen Manufacturing Co.
21 North Church Street
Addison, Illinois

The above manufacturers are not the only ones offering units for this type work, but have indicated they have such equipment available for Argus and similar type cameras.

GUIDE FOR CLOSE-UP AND COPY WORK (Summary Chart)

TYPE OF CLOSE-UP WORK	CAMERA	ACCESSORY UNIT NEEDED	CENTERING AND FRAMING	LIGHTING	CORRECT EXPOSURE	FILM	PROCESSING
PORTRAIT head and shoulders	35mm Type	May use Telephoto Lens	Tele-viewfinder	Daylight	Use exp. meter or exp. guide	Black and White (Medium speed)	Regular or fine grain
	Focusing Lens Cameras	No Accessory Lens Needed	Regular Camera Viewfinder	Flash	Use guide number on bulb carton		
	Fixed Focus Cameras	Portrait Lens	Follow Direction with Lens	Photofloods Reflector Photofloods	Try 1/25 to 1/30 at f/5.6 to f/4 and follow directions with film.	Color	See Photo Dealer
COPYING AND CLOSE-UP (Photomicrography)	35mm Type	Diopter Lens Covers Area (35mm only) +1 8"x12"—18"x26" +2 6"x 8"—9"x13" +3 4"x 6"—6"x 9"	Commercial Units a. Bellowsopes b. Ground glass focus units c. Extension tubes or Homemade frames and devices	Use above units but must have equal illumination at each side of the camera.	Experiment with exposures from 1/10 to 2 sec. at f/11 or smaller.	Black and White (Slow or medium speed)	Fine Grain
	Focusing Lens Cameras	Extension Tubes To Approx. 1"x1½"				Microfilm	Directions with Film
						Color	See Dealer
MICROSCOPE (Photomicrography)	35mm Type	Microscope adapter for camera; or black cloth around lens and microscope eye piece to keep light out.	With camera coupled to microscope, no framing device is needed. (Ground glass in camera back will help focus)	Mercury microscope lamp.	Depends on type of lighting—Try exp. of 1-2-4-8 sec.	Black and White (Slow or medium speed)	Fine Grain
	Focusing Lens Cameras			Small spotlight. Reflector Photospots (RSP)		Color	See Photo Dealer
DENTAL AND MEDICAL	35mm Type	+2 to +10 diopter close-up lenses. (From camera or optical shop).	Commercial units or Homemade units	Circular Ring Lamps	Trial and error only safe method here. (Set up own exp. chart).	Black and White (Slow or medium speed)	Fine Grain
	Focusing Lens Cameras			Spotlights Reflector Photospots (RSP)		Color	See Photo Dealer

LIGHTING GUIDE

Light Unit	Description
PHOTOFLOOD BULBS #1 and #2	Powerful but moderate-sized bulbs which screw into regular sockets and usually require a reflector of some type . . . available in approximately 500 and 750 watt sizes . . . simple to use. (Tend to throw off considerable heat along with their intense light.)
MOVIE LIGHTS R32 and R34	A mushroom-shaped bulb which is actually its own reflector. Part of the bulb is silvered, and concentrates the beam of light.
FLASH REGULAR OR ELECTRONIC	Standard type flashbulbs and electronic units give a very brief, but brilliant flash . . . better put a handkerchief or some other cloth material over them when used very close (to cut down amount of light).
SPOTLIGHTS	Light units of special design from 150 watts to 1000 watts or more . . . give a narrow, but brilliant beam of light (very useful for photographing small objects).
CIRCULAR RING LAMPS (SPEED LIGHT)	Commercial units made to fit around the camera lens . . . provide a "shadowless" light for photographs of oral cavities and special areas of the human body.
MICROSCOPE LAMPS	Designed for use when taking pictures through a microscope (somewhat more expensive than other types of lighting, but exceptionally efficient for this type work).
NATURAL LIGHT	Sunlight or skylight varies greatly with the type of day and position of sun . . . measured most accurately with meter, but charts which come packed with film will help . . . (Note . . . DON'T mix daylight and artificial light when taking close-up pictures in color).

NOTE: Your slide projector is also an excellent light source when used as a spotlight.



If you have any photographic problems with which we can help,
won't you please write to . . .

Educational Services Division

ARGUS CAMERAS

Division of Sylvania Electric Products Inc.

Ann Arbor, Michigan